

## CLAIMS

We claim:

1. A method of detecting a target analyte in a sample comprising:
  - a) applying an initiation signal to a tissue collection device comprising an electrode comprising:
    - i) a self-assembled monolayer;
    - ii) an assay complex comprising:
      - 1) a capture binding ligand;
      - 2) said target analyte; and
      - 3) an electron transfer moiety; and
  - b) detecting electron transfer between said electrode and said electron transfer moiety.
2. A method according to claim 1 wherein said sample is blood.
3. A method according to claim 1 wherein said self-assembled monolayer comprises insulators.
4. A method according to claim 1 wherein said self-assembled monolayer comprises an EFS.
5. A method according to claim 1 wherein said target analyte is nucleic acid.
6. A method according to claim 1 wherein said capture binding ligand is a capture probe.
7. A method according to claim 1 wherein said assay complex comprises a label probe comprising said electron transfer moiety.
8. A method according to claim 1 wherein said electron transfer moiety is ferrocene.